SANTA CRUZ BIOTECHNOLOGY, INC.

Factor XII heavy chain (B7C9): sc-59518

BACKGROUND

Hemostasis following tissue injury involves the deployment of essential plasma procoagulants which are involved in a blood coagulation cascade leading to the formation of insoluble fibrin clots and the promotion of platelet aggregation. Factor XII, (FXII) a blood coagulation factor, is a serum glycoprotein that participates in fibrinolysis, as well as the generation of Bradykinin and Angiotensin. An enzyme of the serine protease (or serine endopeptidase) class, it activates both Factor XI and prekallikrein in the coagulation cascade. Factor XII deficiency, a rare hereditary disorder slightly more prevalent among Asians, does not cause excessive hemorrhaging since other coagulation factors compensate for it. Researchers have still reported Factor XII deficiency to be a risk factor for the development of arterial and venous thromboembolism. The gene for human Factor XII maps to the very end of the long arm of the fifth chromosome (5q33-qter). The heavy chain of human Factor XII retains an equilibrium dissociation consant of 9.8nM.

REFERENCES

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7. Bradford, H.N., Pixley, R.A. and Colman, R.W. 2000. Human Factor XII binding to the glycoprotein Ib-IX-V complex inhibits Thrombin-induced platelet aggregation. J. Biol. Chem. 275: 22756-22763.
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CHROMOSOMAL LOCATION

Genetic locus: F12 (human) mapping to 5q35.3; F12 (mouse) mapping to 13 B1.

SOURCE

Factor XII heavy chain (B7C9) is a mouse monoclonal antibody raised against Factor XII heavy chain of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Factor XII heavy chain (B7C9) is available conjugated to agarose (sc-59518 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-59518 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-59518 PE), fluorescein (sc-59518 FITC), Alexa Fluor® 488 (sc-59518 AF488), Alexa Fluor® 546 (sc-59518 AF546), Alexa Fluor® 594 (sc-59518 AF594) or Alexa Fluor® 647 (sc-59518 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-59518 AF680) or Alexa Fluor® 790 (sc-59518 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Factor XII heavy chain (B7C9) is recommended for detection of Factor XII heavy chain of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Molecular Weight of Factor XII heavy chain: 50 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

SELECT PRODUCT CITATIONS

1. Yang, A., Chen, F., He, C., Zhou, J., Lu, Y., Dai, J., Birge, R.B. and Wu, Y. 2017. The procoagulant activity of apoptotic cells is mediated by interaction with Factor XII. Front. Immunol. 8: 1188.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.